

California Monthly Climate Summary March 2007

Weather Highlights

March 2007 roared into California with record cold temperatures in Southern California. However, the cold was short-lived as record hot weather blanketed the entire state by the middle of the month. Near the end of March another swing of cold temperature hit the state producing even more records and thunderstorms for parts of the state. For the National Weather Service Co-Operative Network, the statewide average mean temperature was 54.5°F which is 3.0 degrees higher than the long-term average. The statewide average maximum temperature was 67.5°F, which is 4.0°F greater than the long-term average. The statewide average minimum temperature was 41.8°F which is 1.4°F greater than the long-term average. March returned to January 2007's style for precipitation with little rain or snow making it to the Golden State. The National Weather Service Cooperative Network showed a March statewide average precipitation of 0.59 inches which is 2.93 inches below the long-term average for March.

March began with a well organized low pressure system moving out of the Gulf of Alaska bringing winds, rain and snow to the state. A high pressure system followed quickly raising temperatures across the state. In the San Joaquin Valley, March 3rd daily high temperatures were as much as 14 degrees warmer than the previous day. The second week of March followed a similar pattern with a weak system pushing showers in the north of the state and cooler air southward. Warm temperatures again moved in following the system with many areas in the state setting high temperature records on March 11th and 12th. The record hot weather continued into the third week of March with Bishop and Needles setting daily high records over several days. Bakersfield also set high daily minimum temperature records during this stretch. No measurable precipitation was recorded in the state during the third week of March. A storm system finally broke the bubble of high pressure during the fourth week of March bringing moderate amounts of rainfall and cooler weather to the state. For the Northern California 8-station index, this storm added over an inch of precipitation dropping 2007 from the driest March in 88 years to the sixth driest. This is the second sixth driest month for water year 2007 for the Northern California 8-station index. January 2007 was the other.

Preliminary records reported on the National Weather Service Record Event Report show that there were 217 temperature records tied or broken statewide for the month – more than three times the number of February records. Some new records shattered the old records such as Fullerton Airport on March 11 and the San Diego Wild Animal Park on March 12th. Both places broke the old record by 13 degrees with new readings of 97 degrees versus previous records of 84 set in 1959 for Fullerton and 1997 for the Wild Animal Park. There were 19 days in March with a record set somewhere in California. It should be noted that this data is preliminary and may not include all records set. New daily maximum temperature records account for 198 of the 217 reports. Statewide extremes from the California Data Exchange Center's (CDEC) network of temperature gages are shown below.

Precipitation in March was far below normal. The largest amount of precipitation recorded for March 2007 was at Gasquet Ranger Station where 6.27 inches of rain fell. This is only 57% of the average March rainfall at this site. Five stations in the state

reported no precipitation for the month. The 8-Station Index for northern California precipitation showed 11 days of precipitation for a total of 1.6 inches. This is 23% of the long-term average for March and ranked as the sixth driest March in the last 88 years. A table of the monthly October through March 8 station index totals is provided below. In the southern part of the state, the downtown Los Angeles station recorded only 0.05 inches of rain in March which keeps it on track for its driest year on record with 2.47 inches. The previous driest year on record was from July 1960 to June 1961 when only 4.85 inches fell. More recently, from July 2001 to June 2002, 4.92 inches of rain fell. Statewide, the average precipitation for March was 25.6% of the long-term average based on the California Data Exchange Center (CDEC) gages. Precipitation percentages by region from the CDEC gages are shown in a table at the end of this document.

The continuing dry weather over California has been reflected in the Drought Monitor Maps which can be found on the National Drought Mitigation Center's (NDMC) website <http://drought.unl.edu/dm/>. These maps are largely a reflection of precipitation and soil moisture deficit estimates. Only the northwest part of the state is depicted as not having dry conditions. Most of the rest of California is depicted as having abnormally dry (D0) or moderate drought conditions (D1). The southern parts of the state are depicted by the NDMC as being in either severe drought (D2) or extreme drought (D3). Maps are updated weekly.

ENSO Conditions and Long-Range Outlooks

The El Niño/Southern Oscillation (ENSO) is being classified as a neutral pattern. Equatorial sea surface temperature anomalies for the eastern tropical Pacific are running near -0.5 degrees Celsius. Continuing downward trends towards La Nina conditions are possible in the next couple of months. Most of the forecast models suggest ENSO neutral conditions persisting through spring. More information on the topic can be found at the Climate Prediction Center's web site: http://www.cpc.ncep.noaa.gov/products/analysis_monitoring/enso_advisory/. Current climate indicators including ENSO conditions indicate a warmer than average April through June period for most of California and below-normal temperatures for coastal Southern California. Precipitation forecasts show below normal totals for the next three months for the southern third of the state and equal chance of above, near, or below normal precipitation for the rest of the state. Long-range outlook plots of precipitation and temperature can be found at: <http://www.wrcc.dri.edu/longrang/>. General weather information of interest can be found at <http://www.noaa.gov/>. For anomaly information please see http://www.wrcc.dri.edu/anom/cal_anom.html.

Agricultural Data

March's warm weather promoted crop growth in the state. Grape vines are leafing out earlier than usual. Stone fruit blooming took place during March along with blueberries and almonds. Rice fields were drained and prepped for planting. Vegetable growth in Tulare County benefited from the warm weather as well. Alfalfa cutting was done in the Central Valley and harvesting of vegetable crops such as asparagus, bok choy, broccoli, cabbage, and others continued. Harvesting of frost damaged citrus continued during March along with further pruning of damaged trees. Range conditions have suffered due to the lack of precipitation this winter and supplemental feeding continued in March. Some livestock were moved to feed lots in Colorado. For further crop information, please see <http://www.nass.usda.gov/index.asp>

Snow Data

The snow water equivalent at the beginning of April is running at 35% of normal statewide with an average of 9.8 inches in the north, 11.3 inches in the central, and 6.9 inches in the south parts of the Sierra. These values are approximately 34% of the average April 1 values and represent a distinct drop-off from the beginning of March. As a result, this year's peak in the seasonal snowpack was in March rather than the historical April 1 date.

The snow product for the climate summary provided by the University of California, Merced, University of California, Santa Barbara, and the National Snow and Ice Data Center under NASA Grant NNG04GC52 (REASoN CAN 'Multi-resolution snow products for the hydrologic sciences') will be delayed for this month's summary and will appear as its own product on the state climatologist web site under the climate data and information link under the heading monthly SCA report.

Other Climate Summaries

[California Climate Tracker](#) (new product of Western Region Climate Center)

[Golden Gate Weather Service Climate Summary](#)

[NOAA Monthly State of the Climate Report](#)

Statewide Extremes

High Temperature – 103 deg F (Buttercup, Colorado River Desert)

Low Temperature - -16 deg F (Big Meadows, Tulare)

High Precipitation – 6.27 inches (Gasquet Ranger Station, North Coast)

Low Precipitation –0 inches (5 stations)

Statewide Precipitation Statistics

Hydrologic Region	Region Weight	Basins Reporting			Stations Reporting			Percent of Historic Average	
		Basins	Mar	Oct-Mar	Stations	Mar	Oct-Mar	Mar	Oct-Mar
NORTH COAST	0.27	5	5	5	19	13	13	32.3%	83%
SAN FRANCISCO BAY	0.03	2	2	2	6	5	5	14.2%	70%
CENTRAL COAST	0.06	3	3	3	11	9	8	8.6%	49%
SOUTH COAST	0.06	3	3	3	15	12	12	9.5%	28%
SACRAMENTO RIVER	0.26	5	5	5	43	35	35	21.7%	67%
SAN JOAQUIN RIVER	0.12	6	6	6	25	23	22	26.9%	65%
TULARE LAKE	0.07	5	5	5	28	28	27	45.1%	55%
NORTH LAHONTAN	0.04	3	3	3	14	12	10	26.8%	57%
SOUTH LAHONTAN	0.06	3	3	3	15	10	10	16.9%	32%
COLORADO RIVER	0.03	1	1	1	6	5	4	42.4%	12%
STATEWIDE WEIGHTED AVERAGE	1.00	36	36	36	182	152	146	25.6%	63%

Statewide Mean Temperature Data by Hydrologic Region (degrees F)

Hydrologic Region	No. Stations	Minimum	Average	Maximum
North Coast	31	28.7	48.4	75.1
SF Bay	19	38.7	55.1	74.2
Central Coast	33	39.9	54.8	75.0
South Coast	65	35.7	58.0	85.8
Sacramento	91	27.1	50.2	76.8
San Joaquin	75	25.2	49.9	74.4
Tulare Lake	20	10.4	43.3	72.3
North Lahontan	8	18.9	42.9	66.7
South Lahontan	24	17.8	46.5	72.2
Colorado River Desert	22	43.6	65.8	86.9
Statewide Weighted Average	388	27.4	50.0	75.7

Northern California 8-Station Index October through March Values

Month	Precipitation (inches)	% of Average
October	0.5	17
November	5.7	90
December	8.5	101
January	1.4	16
February	13.6	170
March	1.6	23